HAILSTORM OF SEPTEMBER 7, 1930, ACROSS EXTREME SOUTHEASTERN SOUTH DAKOTA AND NORTHWESTERN IOWA

By GERSHOM K. GREENING
[Weather Bureau Office, Sioux City, Iowa]

On Sunday afternoon, September 7, 1930, one of the most destructive hailstorms of record for the middle Missouri Valley cut a swath 60 miles long and 5 miles wide across the extreme northern portion of Union County in South Dakota and extreme southwestern Sioux, central Plymouth, and north central Woodbury Counties in Iowa. (Fig. 3.) Although heavy rains were

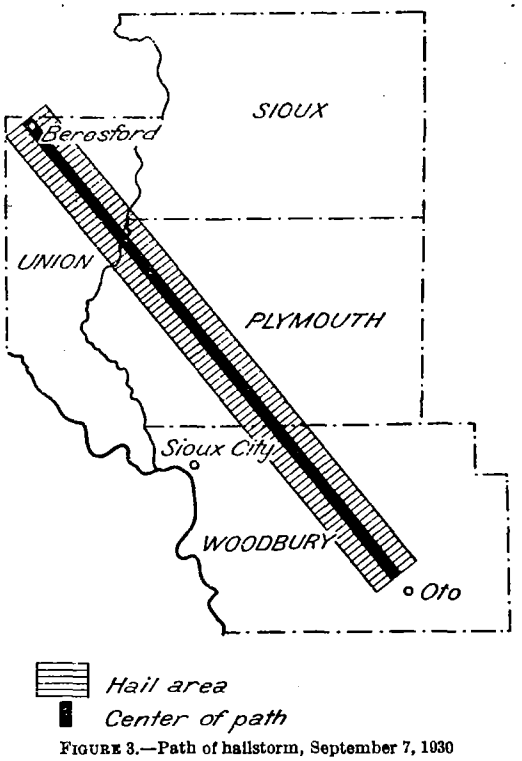

FIGURE 3.—Path of hailstorm, September 7, 1930

reported earlier in the day in line of the path of the storm projected to the northwest for 200 miles, the first hail was reported near Beresford, Union County, S. Dak., about noon. It was last observed at 3 p. m. 3 miles to the north of Oto, Woodbury County, Iowa. The path of greatest destruction as viewed by the writer ranged from a mile to a mile and one-half in width straight as "the crow flies" over the 60-mile stretch, although it is not intended to infer that the loss was constantly uniform. In some fields the damage would be as low as a bushel or two to the acre, while in others the corn would be a total loss. Cornfields that would have yielded 30 to 40 bushels to the acre were hammered to a barren waste. Others looked more like they had been "hogged down" for a couple of weeks. Large groves were left destitute of leaves and in the areas worst hit, "it looks just like January." Hailstones ranging in size from peas to walnuts and some say as large as baseballs covered the ground to more than an inch in places after the storm. The county is generally rolling and the hailstones were collected along the dry runs and small creeks that were filled to overflowing. Three or four days after the storm some hail had not entirely melted.

Eye witnesses are in agreement that the cloud was a heavy low black rolling formation with that peculiar greenish cast common to hailstorms.

One million dollars would be a conservative estimate of the damage done, most of which was to the corn crop. Poultry suffered heavily. Paint, roof, and window damage to buildings was likewise a big item of loss. Individual farmers reported as many as 200 chickens killed during the storm. The area swept was a heavy producing livestock section and cattle and horses exposed to the hail were literally covered with "bumps" for several days. Livestock must by instinct protect itself, as with the hailstones in the center of the path unusually large, no animals were found to have been blinded, although some small pigs were killed and there was also some loss to livestock from high water in connection with the storm. Telephone poles, fence posts, and farm buildings in numerous places were badly pelted by the stones as shown by the marks on the north and west exposures.

Twenty years ago hail insurance was little thought of in northwestern Iowa. To-day, it is carried on a large percentage of the farms and in many instances is required to protect the mortgage, rather than being due to the desire of the landowner or tenant to protect his own interests. Whether the hail insurance was taken as a result of foresight or compulsion, nevertheless quite a little of the loss will be retrieved from that source.

SOME 1929 FIRE-WEATHER COMPARISONS[1]

By E. M. KEYSER
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The season of 1929 holds a unique place in fire-weather history in United States district forest No. 1. This district comprises northeastern Washington, northern Idaho, Montana, and northwestern South Dakota. Since forest fire records have been tabulated, the last 22 years, the four seasons, 1910, 1919, 1926, and 1929 are outstanding. These four years account for 87 per cent of the fire losses in the district since 1907.

Howard Flint, in charge of fire-control measures in the district, furnishes the following summary of fires for these four bad years. He cautions that the figures, for comparison purposes, should not be taken too literally, because of the changing conditions from year to year.

Year	Number of fires	Area burned	Suppression cost
		Acres	
1910	1,736	2,400,000	$795,280
1919	2,258	1,329,000	2,167,515
1926	1,307	340,800	1,133,220
1929	1,949	241,500	1,697,500

In view of the small acreage burned in 1929, only about 10 per cent of that of 1910, and the relatively large number of actual fires and high suppression cost, about 80 per cent of that of 1919, when war time prices were still in vogue, it seems opportune to inquire into the nature of the season's weather phenomena and to ascertain, if

[1] Presented at a meeting of the Northwest Scientific Association on Dec. 27, 1929.